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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,424	07/27/2000	Mamoru Uchida	1403-0203P	2636

7590

08/09/2002

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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

8

DATE MAILED: 08/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627424

Applicant(s)

Uchida et al

Examiner

Maki

Group Art Unit

1733

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 5-3-02 and 5-23-02

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-3 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____

☐ Copies of the certified copies of the priority documents have been received
in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

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- 1) The proposed drawing correction filed 5-23-02 has been approved by the examiner.
- 2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 3) **Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '204 (JP 62-191204) in view of Japan '603 (JP 3-258603) and Japan '214 (10-129214) and optionally further in view of Lucas et al (US 5967211) and / or Canada '784 (CA 2049784)**

Japan '204, directed to a tire having good anti-skid-proofing on snowy or icy road, discloses a pneumatic tire having a tread comprising 100 parts tread rubber such as natural rubber (a diene rubber) and 5-60 parts short fibers such as glass fibers or carbon fibers. The short fibers are radially oriented (oriented orthogonal to the outer surface of the tread 4). Japan '204 does not specifically recite the hardness of the tread.

As to claims 1-3, it would have been obvious to one of ordinary skill in the art to provide the tread rubber of Japan '204's tire which is to be used on snowy or icy roads such that the hardness of the tread rubber is 45-75 degrees at -10 degrees C since (1) Japan '603 suggests using a tread rubber having a hardness of 45-50 JIS for tire, which like the tire of Japan '204 contains radially oriented short fibers in the tread and is to be used on an ice road surface and optionally (2) Lucas et al, which also describes a tire tread having short fibers therein, suggests using a tread rubber having a shore A hardness of 45-65 (a relatively soft rubber) for enhancing ice traction.

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Hence: The applied prior art strongly motivates one of ordinary skill in the art to use rubber having the claimed hardness for the tread of Japan '204. Each of the tires of Japan '204, Japan '603 and Lucas et al are to be used on ice. Each of the tires of Japan '204, Japan '603 and Lucas et al have a tread comprising short fibers. Japan '603 suggests using the claimed hardness in combination with using radially oriented short fibers. Lucas et al motivates one of ordinary skill in the art to use the claimed hardness to enhance ice traction. Enhancement of ice traction is desired in the tire of Japan '204 since Japan '204 teaches that the tire is for use on snowy or icy roads.

As to the fiber length / diameter, it would have been obvious to use a fiber length of 0.1-5 mm and a diameter of 1-100 μm for the short fibers of Japan '204 in view of (1) Japan '204's teaching to use short fibers having a fiber length of 1-20 mm (bottom right of page 21), (2) Japan '214's teaching to use radially oriented short fibers having a length of 20-1000 μm and a L/D of 200-2000 (column 3 paragraph 19) and optionally (3) Canada '784's teaching to use short fibers in a tread having an average fiber length of 0.1-5 mm (100-5000 μm) and an average diameter of greater than 1 μm to avoid objectionable random movement of the short fibers.

As to E1/E2, the limitation of E1 / E2 being 1.1 to 4 at 25 degrees C (this ratio being descriptive of the fibers being radially oriented) would have been obvious in view of (1) Japan '204's teaching to orient the short fibers such that they are orthogonal to the outer surface of the tread (i.e. radially oriented) to improve skid proofing of the tire on icy or snowy road and (2)

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Japan '214's teaching that, when using radially oriented short fibers, care should be taken to use less than 30 parts short fibers because if more than 30 parts of short fibers are used the hardness of the tread will be too high and the grip nature will fall.

The examples in the specification have been considered but are not persuasive of non-obviousness. The results shown in invention examples 1 and 2 and comparative examples 3, 4 and 5 are the expected results in view of: (1) Japan '204's teaching to use radially oriented short fibers to improve skid proofing on icy roads, (2) Japan '603 / Lucas et al's suggestion to use the claimed relatively low rubber hardness in order to improve ice traction and especially in view of (3) Japan '214's teaching to use a small amount of short fibers such as 5 parts by weight so that (a) the hardness of the tread is not too high and (b) the grip nature will not fall. It is acknowledged that Japan '214 is directed to an off road tire. However, the teachings of Japan '214 are applicable to Japan '204 since each of Japan '214 and Japan '204 use radially oriented short fibers in a tire tread.

4) Remarks

Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection. This action is non-final since the new ground of rejection was not necessitated by amendment.

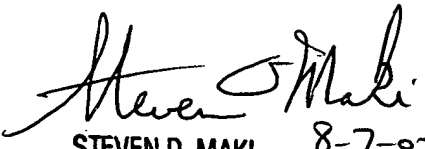
5) No claim is allowed.

6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (703) 308-2068. The examiner

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can normally be reached on Monday to Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball, can be reached on (703) 308-2058. The fax phone number for Art Unit 1733 is (703) 305-7718. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
August 7, 2002


STEVEN D. MAKI 8-7-02
PRIMARY EXAMINER
GROUP 1300
AU 1733